

## 연골 발육 부전증에 의한 척추관 협착증의 수술적 치료

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### Surgical Treatment of Spinal Stenosis Secondary to Achondroplasia

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**Objective :** To report the clinical outcome of surgical treatment of spinal stenosis secondary to achondroplasia, the authors review the clinical and radiological presentation.

**Methods :** Five cases, two males and three females, of spinal stenosis secondary to achondroplasia were reviewed with medical records and radiologic study. The mean follow-up period was 26.8 (range : 10-72) months.

**Results :** In four patients, stenosis was more pronounced at lumbar area. The other patient revealed thoracolumbar and lumbar stenosis with kyphosis at thoracolumbar junction. All patients suffered from neurogenic intermittent claudication. Two patients presented with paraparesis and urinary dysfunction. On radiologic evaluation, all patients showed typical short pedicle, decreased interpedicular distance and severe stenosis. Only decompressive laminectomy was performed without fusion at lumbar area in four patients. One stage posterior interbody fusion and pedicle screw fixation was performed in one case which showed thoracolumbar stenosis and kyphosis. Radicular pain and neurogenic intermittent claudication improved after surgery.

**Conclusion :** One stage posterior lumbar interbody fusion and pedicle screw fixation might be an effective method for the thoracolumbar kyphosis in patients of achondroplasia and for the cases of potential instability following decompression.

**KEY WORDS :** Achondroplasia · Spinal stenosis · Surgical treatment.

서 론

가

가

6,9,10)

가

가

1,9)

가

5

3)

(interpedicular distance)가

9)

대상 및 방법

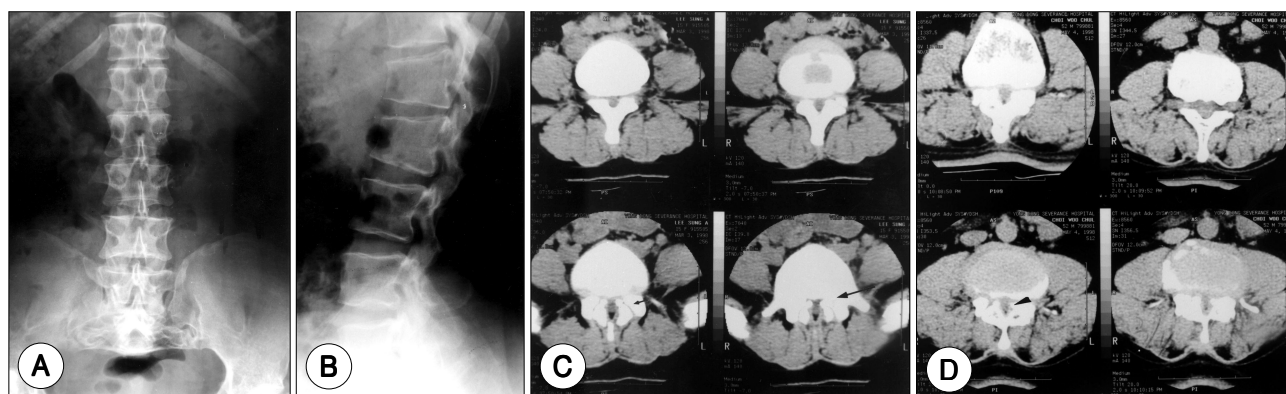
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**Table 1.** Case summary of 5 patients with spinal stenosis secondary to achondroplasia

Case no.	Age/Sex	Presentation	Neurological examination	Radiologic finding	Operation
1	14/F	*NIC	Normal	Stenosis L2-S1	L2 to L5 laminectomy
2	32/F	Back pain, NIC	Hypesthesia in both legs	Stenosis L2-S1, **OLF in L2-5	L2 to L5 laminectomy
3	36/M	Radicular pain, NIC	Bilateral foot drop, bladder/bowel dysfunction	Stenosis L1-S1 mild kyphosis	L1 to L5 laminectomy
4	16/M	Back pain, NIC radicular pain	Normal	Stenosis L1-S1, ***HLD 2/3	L1 to L5 laminectomy, 2/3 discectomy
5	50/M	NIC, radicular pain	Paraparesis, bladder/bowel dysfunction	Stenosis T10-S1, kyphosis, bony spur L1/2, 2/3	T10 to L5 laminectomy, ****PLIF L1/2, 2/3, pedicle screw T12-L4

\*NIC : Neurogenic intermittent claudication, \*\*OLF : Ossification of ligament flavum, \*\*\*HLD : Herniated lumbar disc, \*\*\*\*PLIF : Posterior lumbar interbody fusion



**Fig. 1.** A : Anteroposterior view of lumbar spine shows decreased interpedicular distance. B : Lateral view shows short pedicle and hyperlordosis of lumbar spine (lordotic angle 39 degree). C : Lumbar computed tomography scan of case 3 shows spinal stenosis, short pedicle (large arrow), hypertrophied facet joint (small arrow). D : Lumbar computed tomography scan of case 5 shows severe canal stenosis with hypertrophied facet joint and ligament flavum (arrow head).

(Fig. 1A, B).

5                      10                      6  
,                      ,                      ,  
(Table 1).

30                      2

(Fig. 1C, D).

## 결 과

(Case No. 5,

Fig. 2A, B).

환자의 성별, 연령, 임상증상

5                      가 3                      가 2                      ,                      14                      수술 시기  
50                      .

(foot drop),

가

가 (Table 1).

가

방사선 소견

4

5

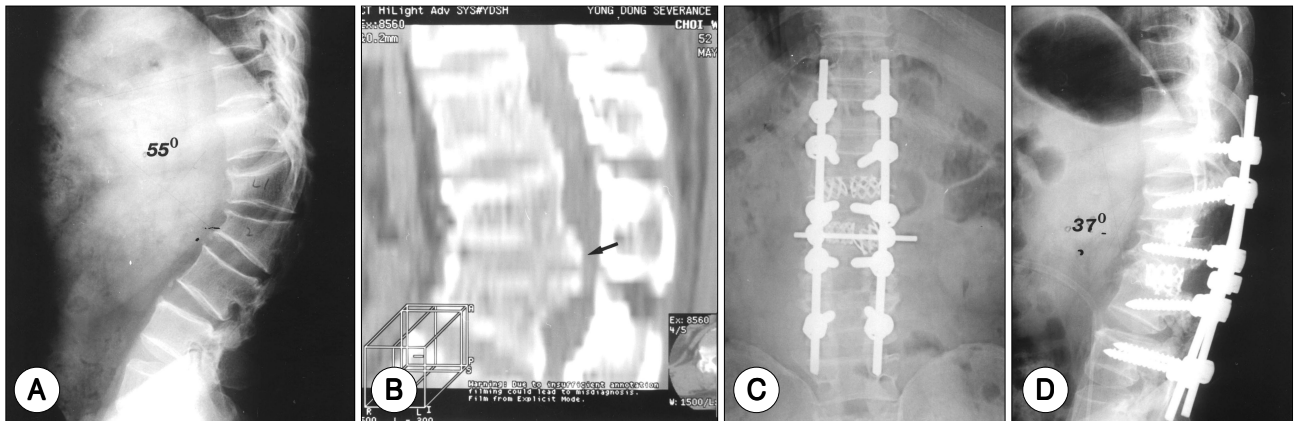
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**Fig. 2.** A : Preoperative lateral spine view shows kyphosis(55 degrees) and wedging vertebrae at thoracolumbar area. B : Preoperative sagittal reconstruction of computed tomography scan shows kyphosis and posterior bony spur(arrow). C, D : Postoperative anterior-posterior and lateral view shows improved kyphosis(37 degrees) following posterior lumbar interbody fusion and pedicle screw fixation.

curet

2 - mm Kerrison punch

55

37

(Fig. 2).

고 찰

3~5mm

17).  
가  
9).  
가

가 가

가 가  
가 가

1/2

2/3

4,6,9,10).  
12~46%

mesh

2,13).

cylinder

(Table 1 Case 5,

Fig. 2).

수술 결과

(Table

1 Case 5, Fig. 2)

. 10

6

5

4).

가

X -

가

(Fig. 1C, D).

가 10~50%

2,8,11,13).

5

2

가

4)

1, 2, 4, 5

3

가

. Uematsu 17)

(foot drop)

Wein-

stein<sup>17)</sup>

Shikata 15)

Uematsue 17)

Fortuna <sup>5)</sup>

Arnold - Chiari

가

14)

가

(Case No 5)

2, 3

(Fig. 2C)

mesh

cage가

가

17)

. 5

가

가

## 결론

가

가

가

5

6,12)

75%

punch

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